CS352 - DATABASE SYSTEMS

Homework #1 - Due: Friday, September 19, at the start of class

Emphasis: Fundamental Concepts; Data Models; The Relational Model

Do the following problems from the end of chapters 1 and 2 in the text:

1. 1.5
2. 1.10
3. 2.5
4. 2.6

See the attached document entitled "Introduction to SQL Homework Problems", then do the following queries - turning in, in each case, a printout of the sql query (neatly formatted) and the output it produces. For the following queries, it may be helpful to refer to the Birchall chapter entitled "Introduction to SQL" - especially the section on "SQL Predicates"; the chapter on "Column functions" and the chapter on "Order by, Group by, and Having"

5. What is the average salary for all employees (from employee)? (This should be a single number).
6. What is the average salary by department for all employees in that department? (This should be a table with one row for each department containing the department code and the average salary for that department)
7. What are the full names (first, middle, last) and hire date of all employees hired between January 1, 1970 and December 31, 1979 ordered in descending order of last name?
8. What are the last names of all employees whose last name ends with 'SON' , listed in ordinary alphabetical order of last name? (Hint: use LIKE)

For the following queries, you may find it helpful to refer to the Birchall chapter entitled "Joins".

9. What are the full names (first, middle, last) and department name of all employees (from employee), ordered in alphabetical order of department name. Note thaf this query asks for the name of the department, not the department code so joining two tables is required. The column headings should be FIRST, M, LAST, DEPARTMENT.

   Do the join using "on".

10. Repeat the above problem, but do the join using "where"
11. The above query does not print out any rows for the DEVELOPMENT CENTER, because no employees are listed as working for that department. Formulate a query that includes a row for this department with nulls (printed as -) for the employee information)